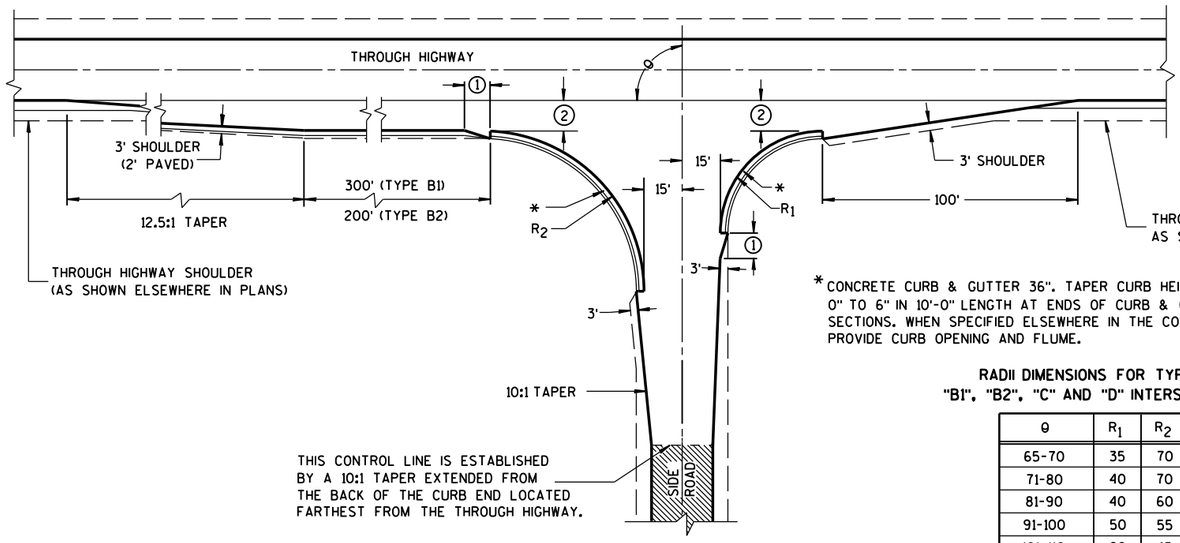
SDD 9a1-a At-Grade Side Road Intersection, Types B1, B2, C and D and Tee Intersection Bypass Lane

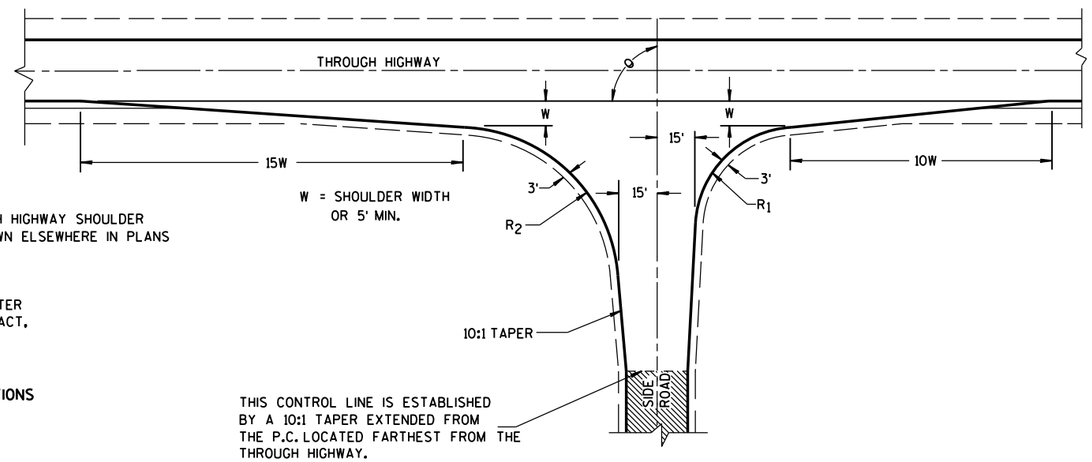


TYPE "B1" AND "B2"

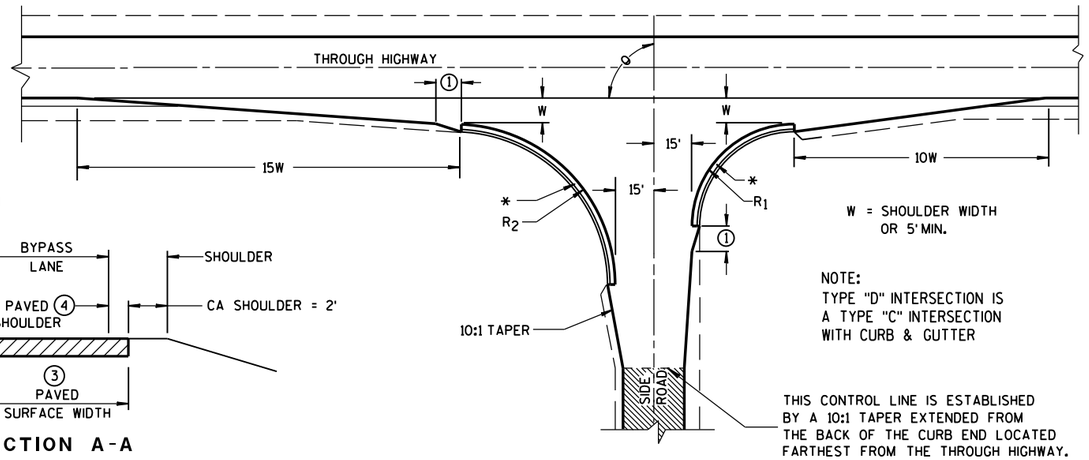
*CONCRETE CURB & GUTTER 36". TAPER CURB HEIGHT 0" TO 6" IN 10'-0" LENGTH AT ENDS OF CURB & GUTTER SECTIONS. WHEN SPECIFIED ELSEWHERE IN THE CONTRACT, PROVIDE CURB OPENING AND FLUME.

RADII DIMENSIONS FOR TYPES "B1", "B2", "C" AND "D" INTERSECTIONS

θ	R_1	R_2
65-70	35	70
71-80	40	70
81-90	40	60
91-100	50	55
101-110	60	45



TYPE "C"



TYPE "D"

GENERAL NOTES

DESIGNS MAY BE USED INTERCHANGEABLY IN COMBINATION OR SEPARATELY FOR ANY ONE COMPLETE INTERSECTION DEPENDING UPON INTERSECTION ANGLE AND SURFACING OF EACH APPROACH ROADWAY.

SIDE ROAD SURFACING NOTE

WHEN THE SIDE ROAD IS NOT PRESENTLY PAVED, PAVEMENT SHALL BE PLACED TO THE LIMITS SHOWN UNLESS OTHERWISE PROVIDED IN THE CONTRACT. WHERE THE CONSTRUCTION LIMITS ARE BEYOND THE PAVING LIMITS, CRUSHED AGGREGATE SURFACING SHALL BE PLACED BETWEEN THE PAVING LIMITS AND CONSTRUCTION LIMITS.

WHEN THE SIDE ROAD IS PRESENTLY PAVED, NEW PAVEMENT SHALL BE PLACED TO THE LIMITS OF DESIGN AS SHOWN AND BEYOND, IF NECESSARY, TO MEET EXISTING PAVEMENT.

WHEN THE SIDE ROAD IS THE CONSTRUCTION PROJECT, THE INTERSECTION SURFACING SHALL BE THE SAME AS FOR THE PROJECT.

EXISTING PAVED SURFACE

BYPASS LANE

(1) 10-FT TYPICAL.

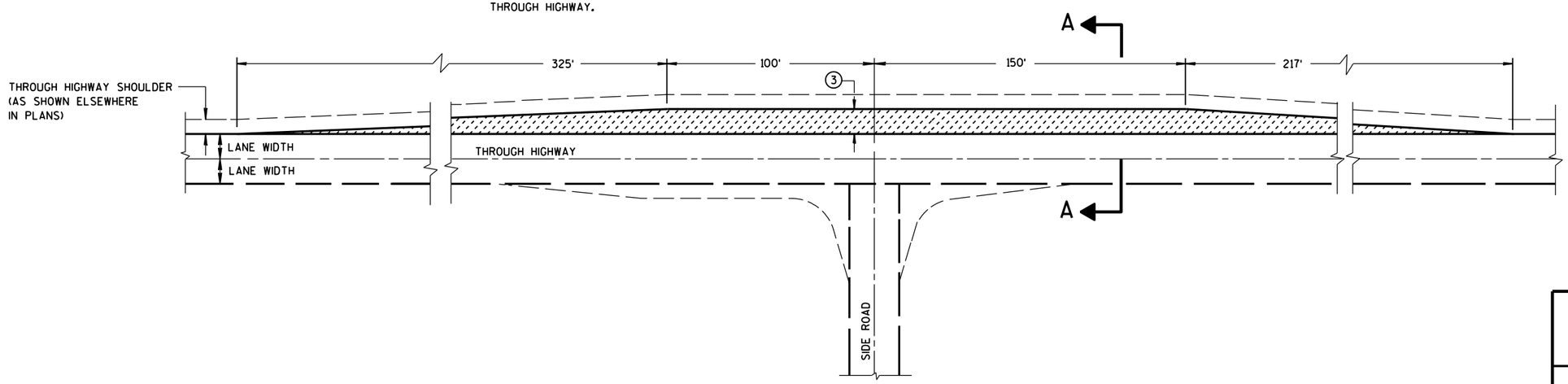
(2) 12-FT** PLUS ADDITIONAL WIDTH FOR BIKE LANE IF SHOWN ELSEWHERE IN THE PLAN.

**10-FT MAY BE USED ON TYPE B2 ON RESURFACING PROJECTS IF SPECIFIED IN THE CONTRACT.

(3) BYPASS LANE PAVED SURFACE WIDTH OUTSIDE OF TRAVEL LANE
-ASPHALT = 12-FT PLUS PAVED SHOULDER WIDTH.
-PC CPNCRETE = 13-FT PLUS PAVED SHOULDER WIDTH.

(4) BYPASS LANE PAVED SHOULDER WIDTH = THE GREATER OF 1-FT OR THE PAVED SHOULDER WIDTH OF THE THROUGH HIGHWAY.

SECTION A-A
(SHOWING BYPASS LANE AND SHOULDER)



TEE INTERSECTION BYPASS LANE DETAIL

AT-GRADE SIDE ROAD INTERSECTION, TYPES "B1", "B2", "C" AND "D" AND TEE INTERSECTION BYPASS LANE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

S.D.D. 9 A 1-13a

6

S.D.D. 9 A 1-13a

Version 13 **Standard Detail Drawing 9A1** (sheet a) *December 21, 2012*

At-Grade Side Road Intersection, Types B1, B2, C and D and Tee Intersection Bypass Lane

References:

FDM 11-25-1

Bid items associated with this drawing:

ITEM NUMBER	DESCRIPTION	UNIT
416.1010	Concrete Surface Drains	CY
465.0315	Asphaltic Flumes	SY
601.0413	Concrete Curb & Gutter 30-Inch Type G	LF
601.0415	Concrete Curb & Gutter 30-Inch Type J	LF
305.0110 - .0135	Base Aggregate Dense	TON or CY
205.9010.S	Grading and Shaping Intersection (location)	EACH
205.9015.S	Grading Shaping and Finishing Intersection (location; var. pavements)	EACH
601.0555	Concrete Curb & Gutter 6-Inch Sloped 36-Inch Type A	LF
601.0557	Concrete Curb & Gutter 6-Inch Sloped 36-Inch Type D	LF

Standardized Special Provisions associated with this drawing:

STSP NUMBER	TITLE
205-010	Grading and Shaping Intersection (location)
205-015	Grading Shaping and Finishing Intersection (location)

Use these provisions if the work is not covered under standard grading bid items.

Other SDDs associated with this drawing:

SDD 8D1	Concrete Curb, Concrete Curb & Gutter and Ties
SDD 8D4	Concrete Surface Drains & Asphaltic Flumes
SDD 9A1	At-Grade Side Road Intersection sheet "b" is required.
SDD 13C16	Detail for Right Turn Lane/ Tee Intersection Bypass on a Concrete Road

Design Notes:

See FDM 11-25-1 for selection criteria for Types B1, B2, C and D Intersections and Tee Intersection Bypass Lane.

These intersection designs will accommodate the turning of the WB-50 design vehicle; however, the WB-50 vehicle turning right into or from the Type C intersection will encroach into the opposing traffic lane.

Special evaluation and modification of these intersection details may be warranted for major intersections on designated long truck routes to accommodate the WB-65 design vehicle.

Full-width turn lane lengths apply to both left turn lanes and right turn lanes for traffic entering the same side road leg of the intersection. Provide a longer turn lane based on needed storage to accommodate queuing Design Hour Traffic, or there is a high volume of truck turning movements.

The Type B1 and B2 design do not apply when the side road is on curved alignment at the intersection. For this situation extend the full width curbed cross-section 50 feet minimum into the curve. Provide special details.

Specify sod, topsoil or salvaged topsoil and seed & fertilize to a 3'-0" width in back of the curb & gutter sections.

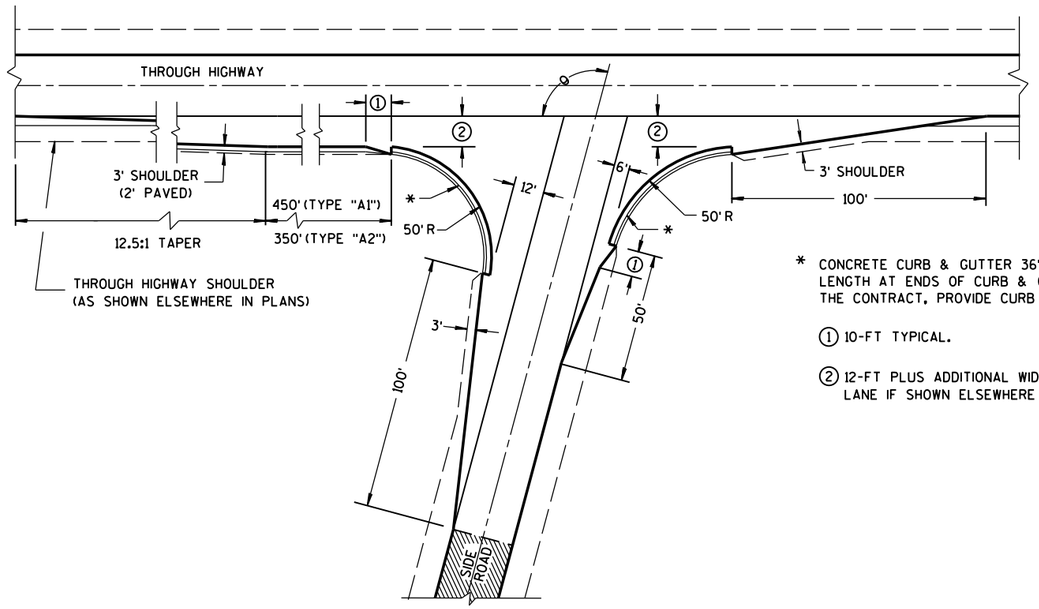
If curb & gutter is built under a separate contract from the grading work, the designer must specify who is responsible for backfilling the two feet behind the curb & gutter.

Use SDD 13C16 in conjunction with this sheet if the roadway is PC concrete pavement.

Contact Person:

Mark Zander (608) 267-7327

SDD 9a1-b At-Grade Side Road Intersection, Type A1 and A2

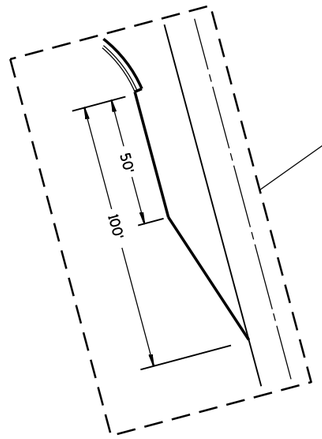


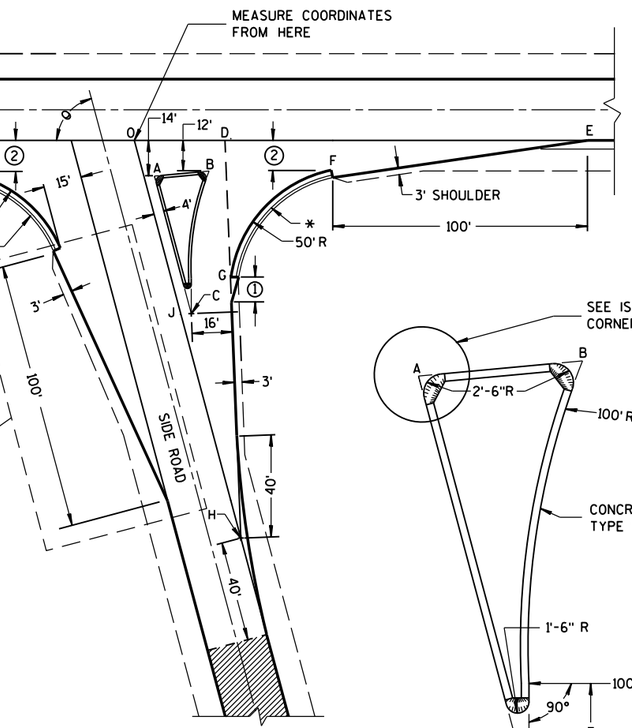
* CONCRETE CURB & GUTTER 36". TAPER CURB HEIGHT 0" TO 6" IN 10'-0" LENGTH AT ENDS OF CURB & GUTTER SECTIONS. WHEN SPECIFIED ELSEWHERE IN THE CONTRACT, PROVIDE CURB OPENING AND FLUME.

① 10-FT TYPICAL.

② 12-FT PLUS ADDITIONAL WIDTH FOR BIKE LANE IF SHOWN ELSEWHERE IN THE PLANS.

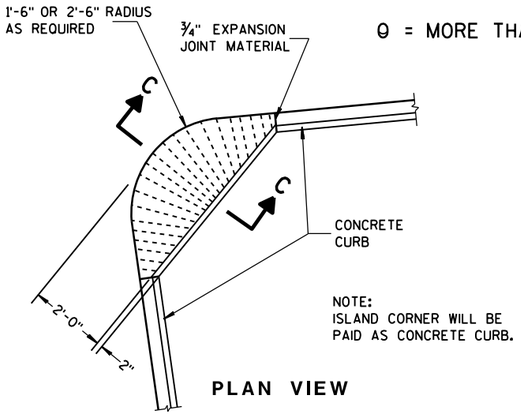
θ = MORE THAN 80°





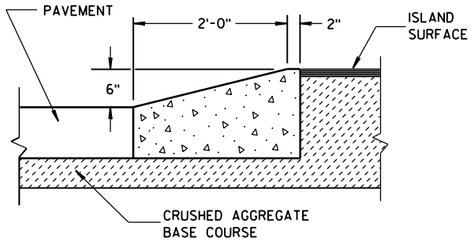
θ = ACUTE ANGLES 80° OR LESS

SIDE ROAD WIDENING AND TAPER REQUIRED WHERE THE THROUGH HIGHWAY CARRIES TWO-WAY TRAFFIC
θ = ACUTE ANGLES 70° OR LESS



NOTE:
ISLAND CORNER WILL BE PAID AS CONCRETE CURB.

PLAN VIEW



SECTION C-C

ISLAND CORNER DETAIL

(TO BE CONSTRUCTED AT ALL ISLAND CORNERS)

TABLE OF DIMENSIONS FOR
VARIABLE SIDE ROAD INTERSECTION ANGLES
(INTERPOLATE VALUES FOR ANGLES NOT SHOWN)

ANGLE θ DEGREES	COORDINATES IN FEET (MEASURED FROM POINT "O") X/Y								LENGTH IN FEET				
	A	B	C	D	E	F	G	H	AB	AC	T	OJ	OH
60	12.7 / -14.0	44.9 / -12.0	46.4 / -72.4	41.9 / 0.0	205.0 / 0.0	104.6 / -12.0	64.0 / -75.5	85.0 / -147.1	32.3	67.4	4.9	85.9	169.9
65	10.9 / -14.0	39.0 / -12.0	37.8 / -71.6	39.4 / 0.0	196.1 / 0.0	95.7 / -12.0	54.1 / -71.5	70.5 / -151.3	28.2	63.6	8.5	80.9	166.9
70	9.4 / -14.0	33.9 / -12.0	29.8 / -70.1	37.4 / 0.0	188.3 / 0.0	87.8 / -12.0	45.6 / -67.5	56.1 / -154.2	24.6	59.7	11.5	76.1	164.1
75	7.9 / -14.0	29.3 / -12.0	22.3 / -67.9	35.7 / 0.0	181.2 / 0.0	80.7 / -12.0	38.2 / -63.4	41.8 / -155.9	21.5	55.8	13.8	71.4	161.4
80	6.5 / -14.0	25.4 / -12.0	15.6 / -65.2	34.4 / 0.0	174.8 / 0.0	74.4 / -12.0	31.8 / -59.3	27.6 / -156.5	18.9	52.0	15.6	66.9	158.9

TYPE "A1" & "A2" SIDE ROAD INTERSECTION DETAILS

AT-GRADE SIDE ROAD INTERSECTION, TYPE "A1" & "A2"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
12/18/12 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

At-Grade Side Road Intersection, Type A1 and A2

References:

FDM 11-25-1

Bid items associated with this drawing:

ITEM NUMBER	DESCRIPTION	UNIT
416.1010	Concrete Surface Drains	CY
465.0315	Asphaltic Flumes	SY
601.0413	Concrete Curb & Gutter 30-Inch Type G	LF
601.0415	Concrete Curb & Gutter 30-Inch Type J	LF
305.0110 - 305.0135	Base Aggregate Dense	TON or CY
205.9010.S	Grading & Shaping Intersection	LOCATION
205.9015.S	Grading Shaping & Finishing Intersection (location; var. pavement)	EACH
601.0555	Concrete Curb & Gutter 6-Inch Sloped 36-Inch Type A	LF
601.0557	Concrete Curb & Gutter 6-Inch Sloped 36-Inch Type D	LF

Standardized Special Provisions associated with this drawing:

STSP NUMBER	TITLE
205-010	Grading & Shaping Intersection (location)
205-015	Grading Shaping & Finishing Intersection (location)

Use these provisions if the work is not covered under standard grading bid items.

Other SDDs associated with this drawing:

SDD 8D1	Concrete Curb, Concrete Curb & Gutter and Ties
SDD 8D4	Concrete Surface Drains & Asphaltic Flumes
SDD 9A1	At-Grade Side Road Intersections sheet “a”
SDD 13C16	Detail for Right Turn Lane/ Tee Intersection Bypass on a Concrete Road

Design Notes:

See FDM 11-25-1 for selection criteria for Type A1 and A2 intersections.

Type A1 and A2 intersection design will accommodate a WB-65 design vehicle. There may be some encroachment onto the curb flag at some intersection angles.

Full-width turn lane lengths apply to both left turn lanes and right turn lanes for traffic entering the same side road leg of the intersection. Provide a longer turn lane based on needed storage to accommodate queuing Design Hour Traffic, or there is a high volume of truck turning movements.

The Type A1 and A2 intersection design does not apply when the side road is on curved alignment at the intersection. For this situation extend the full width curbed cross section 50 feet minimum into the curve. Provide special details.

Show island surface type and related details elsewhere in the plan.

Specify sod, topsoil or salvaged topsoil and seed & fertilize to a 3’-0” width at back of the curb & gutter sections.

If curb & gutter is built under a separate contract from the grading work, the designer must specify who is responsible for backfilling the two feet behind the curb & gutter.

SDD 9A1-a must be used in conjunction with this sheet.

Use SDD 13C16 in conjunction with this sheet if the roadway is PC concrete pavement.

Contact Person:

Mark Zander (608) 267-7327